THE INVENTION CLAIMED IS

1. In a process for producing microchannels in a device having a substrate with etched microchannels bonded to a top plate, the improvement comprising:

annealing the bonded device to allow surface tension forces and diffusional effects to lower the overall energy of the microchannels by transforming the cross-section to a circular shape.

2. The process of Claim 1, additionally included bonding the substrate and top plate by a method selected from the group consisting of fusion bonding and anodic bonding.

3. The process of Claim 1, additionally including providing the substrate and/or the top plate from materials selected form the group consisting of glass, silicon and polymer.

4. The process of Claim 1, wherein the substrate and top plate are composed of glass, and wherein the bonding in carried out by fusion or anodic bonding.

5. The process of Claim 1, wherein the substrate is composed of glass and the top plate is composed of silicon, and wherein the bonding is carried out by anodic bonding.

6. The process of Claim 1, wherein the substrate and top plate are composed of glass, and wherein annealing is carried out at a temperature of 600°to 800°C for a time period of 2 to 24 hrs.

7. A method for producing microchannels having no sharp corners in glass, comprising:

isotropically etching at least one channel into a glass substrate,

bonding a glass plate to the substrate to produce at least one sealed microchannel therein, and

annealing the bonded glass plate and substrate causing transformation of the microchannel cross-section into at least a curved configuration without sharp corners.

8. The method of Claim 7, wherein annealing is carried out so as to produce a curved configuration of a substantially circular type.

9. The method of Claim 8, wherein the annealing is carried out at a temperature of 600° to 800°C for a time period of 2 to 24 hrs.

10. The method of Claim 7, wherein the bonding is carried out by a process selected from the group consisting of fusion bonding and anodic bonding.

11. In a device having sealed microchannels therein, the improvement comprising:

the sealed microchannels having a curved configuration.

12. The improvement of Claim 11, wherein said sealed microchannels have no sharp corners therein.

13. The improvement of Claim 11, wherein said curved configuration is circular.

14. The device of Claim 11, wherein said sealed microchannels are located with a plurality of bonded members selected from the group consisting of glass members, glass and silicon members, glass and polymer members, and members selected from the group of glass, silicon and polymers.

15. The device of Claim 14, wherein said members are composed of glass bonded together by either fusion or anodic bonding, and annealed at a temperature for a time period sufficient to create the curved configuration of the at least one sealed microchannel therein.

16. The device of Claim 15, fabricated by annealing the bonded members at a temperature of 200° to 800°C for a time period of 2 to 24 hrs.